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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,470	11/28/2001	David Canard	FR 000127	2289

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EXAMINER

NGUYEN, HAI L

ART UNIT PAPER NUMBER

2816

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,470

Applicant(s)

CANARD ET AL.

Examiner

Hai L. Nguyen

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MW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Response to Amendment

1. The amendment received on 09/22/03 has been reviewed and considered with the following results:

As to the objection to the specification, Applicant's amendments have overcome the objections, as such; the objections to the specification have been withdrawn.

As to the objections to claims 4 and 6, Applicant's amendments have overcome the objections, as such; the objections to the claims have been withdrawn.

As to the prior art rejections to the claims, Applicant's amendments have overcome the prior art rejections mailed on 06/19/03, as such; the prior art rejections have been withdrawn. However, Applicant's amendments necessitate new a new action on the merits as set forth below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quigley et al. (US 5,825,640; previously cited) in view of Ziegler et al. (US 5,877,641).

With regard to claims 1, 2, and 7, Quigley et al. discloses in Figs.1-3 a device, and a method of use thereof, for comparison, including a phase/frequency comparator (24), which is designed to receive a first input signal (VREF) and second input signal (VLO); at least two current

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sources (32, 34), each of which is designed to emit a charge current; and a capacitive element (29), which is designed to have the charge current pass through it, and to generate the control signal (VCONTROL); where the phase/frequency comparator is designed such that the first regulation signal comprises a succession of pulses, each of which has a width which is modulated according to the frequency difference which exists between the first and second input signals. Figs.2-3 of Quigley et al. shows a device meeting all of the claimed limitations of the claims except for the phase/frequency comparator emit two regulation signals (UP, DOWN) instead of one regulation signal as recited in the claims. Ziegler et al. teaches in Fig.8 a comparator including a flip-flop RS (38) connected to regulation signals (UP, DOWN) for emitting a single regulation signal (Q). Therefore, it would have been obvious to one of ordinary skill in the art to implement either the comparator (Fig.8) or a RS flip-flop (38) taught by Ziegler et al. with the prior art (Figs.2-3 of Quigley et al.) in order to prevent the non-determine state when the two input signals (VREF, VLO) are negative-going in coincidence.

With regard to claim 3, the phase/frequency comparator includes a first (52) and a second detector (54) for active edges of the first and second input signals respectively, the outputs of which are connected to the inputs for setting to one and to zero of flip-flop RS; and means (RESET, 40, 42, 56s, 58s, 60, 62, 66, 68) for re-initialization of the first and second detectors, which are designed to deactivate one or the other of the detectors, when the active edge which it has detected has been taken into account by the flip-flop RS.

Claims 4 and 6 are rejected for similar motivation. Note the above discussion with regard to claims 1, 2, and 7.

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4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quigley et al. in view of Ziegler et al. as applied to claim 4 above, and further in view of Ninomiya (US 6,512,801; previously cited).

The above-discussed circuit of the prior arts meets all of the claimed limitations except for a programmable divider (DIV in instant Fig.1 of present application). Ninomiya teaches in Fig.1 a circuit comprising a programmable divider (21), which is inserted between the oscillator (11) and the device (23, 25) for comparison as recited in claim 5. Therefore, it would have been obvious to one of ordinary skill in the art to implement the programmable divider taught by Ninomiya with the prior art (Fig.2 of Quigley et al.) in order to set a dividing ratio with which the oscillator (22) can generate the output signal (VLO) with any frequency, within the range of the circuit, to meet the specific frequency of the particular application.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 703-306-9178 and Right Fax number is 703-746-3951. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 703-308-4876. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

HLN

December 30, 2003

TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800